

YELLOWJACKETS: Dangerous but Beneficial

by Matthew Bowser

Few insects may be as hard for Alaskans to appreciate as yellowjackets. Unlike bees, they are not efficient pollinators. Even the mosquitoes that harry us relentlessly seem to justify their existence through their role in freshwater aquatic food webs. Yellowjackets seem to exist only as a hazard, especially for the horseman or unwary child who unwittingly stumbles upon a nest.

Yellowjackets sting primarily to defend their nests. In contrast to honeybees, which can sting only once, yellowjackets may sting repeatedly. For most people, this causes sharp localized pain, but an allergic response to a sting can quickly result in a severe allergic reaction and even death. Symptoms of a severe reaction include generalized swelling; confusion; dizziness; nausea; and difficulty breathing, speaking, or swallowing. In such cases medical care should be sought immediately.

While it is true that yellowjackets cause considerable trouble for people in Alaska and much of the world, they serve as important predators. Yellowjackets feed primarily on insects, including many insect pests. Some species also scavenge opportunistically.

Ten species of yellowjackets are known from Alaska, at least several of which live on the Kenai. Here, the two that seem to most commonly interact with man are the Common Yellowjacket (*Vespula vulgaris*) and the Aerial Yellowjacket (*Dolichovespula arenaria*).

The Common Yellowjacket, our most abundant species, forms large colonies in ground nests. They may also build nests within walls of houses. Workers can become nuisances since they scavenge quite readily, partaking of any available fresh meat from moose carcasses to salmon fillets and turkey sandwiches.

Aerial Yellowjackets usually construct nests above ground in shrubs and trees, but they also frequently build nests on man-made structures. These nests can be hazardous due to their close proximity with people. Otherwise, Aerial Yellowjackets tend not to be pests since they seldom scavenge.

Yellowjackets construct paper carton nests made from plant fibers, mostly weathered wood. Workers may be seen on old wooden fences and other wooden

structures chewing on the surface of the wood. Nests consist of stacked, horizontal tiers of vertical cells enclosed in an outer envelope. Both aerial nests and underground nests have this same structure. Ground-nesting yellowjackets excavate the soil around the nest as the colony grows.

When yellowjackets, which are generally beneficial, establish colonies in, on, and around human dwellings or when populations of scavenging species become overly abundant, their control is warranted. The most effective means is to destroy yellowjacket nests, although this can be dangerous. Aerial nests may be attacked using fast-acting insecticides in propellant cans; ground-nesting colonies can be killed by use of a fumigant and plugging the nest entrance. This should be done at night or very early in the morning when the wasps are least active and when the maximum number of workers resides in the nest. Safer methods to reduce yellow jacket populations, such as baited yellowjacket traps and poisoned baits are also available.

In Alaska and most of North America, yellowjacket colonies do not survive the winter. Queens, which are larger than the workers, overwinter in leaf litter. They emerge in the spring and seek out suitable places to build nests. This behavior can be conspicuous as they investigate under the eaves of houses and in recesses. Queens construct small nests and rear the first brood of workers on their own. They hunt for insects, chew them up, and feed them to their larvae. As the workers, which, like honeybees, ants, and other social wasps, are all female, enter the work force of the colony, they quickly take over foraging, brood care, and nest construction responsibilities. At this point the colony begins growing quickly, reaching peak population size in July to August. Queens and males are produced at the end of the season as the colony begins to decline. They leave the nest, mate, and the newly fertilized queens seek out protected places in leaf litter.

Some yellowjacket queens, instead of initiating their own colonies, usurp and assassinate the queens of already established colonies. They take over the colony and the workers rear the assassins' offspring.

There are even species of yellowjackets that do not have workers since they always exploit other colonies in this way. There are also yellowjackets here on the Kenai about which little is known. These have white banding instead of the more typical yellow banding.

Whether we appreciate them or not, these small, brightly colored, predatory animals are an integral part of the Alaskan fauna deserving of at least caution. For those curious about yellowjackets, most can

be easily identified using readily available identification keys on the internet.

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